

IN THE CLAIMS

1. (currently amended) A method of fabricating a rotor blade for a gas turbine engine, wherein the rotor blade includes an airfoil having a first sidewall and a second sidewall connected together at a leading edge and a trailing edge, such that a cavity is formed therebetween, said method comprising:

forming a plurality of rib walls that extend at least partially between the first and second sidewalls, wherein the rib walls define a pressure side cooling circuit and a suction side cooling circuit that each include at least three cooling chambers, wherein a first of the cooling chambers within each circuit supplies cooling fluid to the airfoil cavity; and

forming at least one row of openings within at least one of the rib walls extending between adjacent cooling chambers of each circuit, wherein each opening is adjacent one of an inner surface of the first sidewall and an inner surface of the second sidewall, such that the remaining cooling chambers are coupled in flow communication to the first cooling chamber via the openings.

2. (canceled)

3. (previously presented) A method in accordance with Claim 1 further comprising forming at least one feed chamber, at least one cooling chamber, and an ejection chamber coupled together in flow communication, such that during operation cooling fluid supplied from the feed chamber to the at least one cooling chamber is discharged into the ejection chamber.

4. (original) A method in accordance with Claim 1 further comprising forming a plurality of film cooling holes extending through at least one of the first sidewall and the second sidewall into at least one of the cooling chambers.

5. (original) A method in accordance with Claim 1 further comprising forming a plurality of trailing edge slots extending through at least one of the first sidewall and the second sidewall into at least one of the cooling chambers.

6. (original) A method in accordance with Claim 1 further comprising forming a leading edge circuit including a feed chamber and a cooling chamber coupled together in flow communication by a plurality of openings, such that cooling fluid discharged from the openings is directed towards the airfoil leading edge.

7. (currently amended) An airfoil for a gas turbine engine, said airfoil comprising:

a first sidewall and a second sidewall coupled together at a leading edge and a trailing edge, such that a cavity is defined therebetween;

a plurality of rib walls extending at least partially between said first and second sidewalls, said plurality of rib walls defining a pressure side cooling circuit and a suction side cooling circuit that each have at least three cooling chambers; and

at least one row of openings extending through at least one of said rib walls, each of said openings is adjacent one of an inner surface of said first sidewall and an inner surface of said second sidewall, wherein a first of said cooling chambers of each circuit supplies cooling fluid to said cavity, and said remaining cooling chambers within each circuit are coupled in flow communication with said first cooling chamber via said openings.

8. (canceled)

9. (previously presented) An airfoil in accordance with Claim 7 wherein at least one of said pressure side cooling circuit and said suction side cooling circuit comprises at least one feed chamber, at least one transition chamber, and at least one ejection chamber coupled together in flow communication, such that cooling fluid supplied from said at least one feed chamber flows through said at least one transition chamber prior to being discharged into said at least one ejection chamber.

10. (original) An airfoil in accordance with Claim 7 wherein at least one of said first sidewall and said second sidewall comprises a plurality of film cooling holes extending therethrough into at least one of said cooling chambers.

11. (original) An airfoil in accordance with Claim 7 wherein at least one of said first sidewall and said second sidewall comprises a plurality of trailing edge slots extending therethrough into at least one of said cooling chambers.

12. (original) An airfoil in accordance with Claim 7 further comprising a leading edge circuit comprising a feed chamber and a cooling chamber coupled together in flow communication by a plurality of openings, such that cooling fluid discharged from said openings is directed towards said airfoil leading edge.

13. (original) An airfoil in accordance with Claim 7 wherein said plurality of rib walls define at least one purge chamber, the cooling fluid supplied to said cavity transfers heat from said rib walls thereby reducing the temperature of said at least one purge chamber.

14. (previously presented) A gas turbine engine comprising a plurality of rotor blades, each said rotor blade comprising an airfoil comprising a leading edge, a trailing edge, a first sidewall and a second sidewall coupled together at said leading and trailing edges such that a cavity is defined therebetween, a plurality of rib walls extending at least partially between said first and second sidewalls, said plurality of rib walls define at least one purge chamber, and at least one row of openings extending through at least one of said rib walls, wherein said plurality of rib walls define at least one cooling circuit having at least three cooling chambers, wherein a first of said cooling chambers supplies cooling fluid to said cavity, wherein said remaining cooling chambers are coupled in flow communication with said first cooling chamber via said openings, said purge chamber is not actively cooled by cooling fluid supplied to said cavity.

15. (original) A gas turbine engine in accordance with Claim 14 wherein said at least one cooling circuit comprises a pressure side cooling circuit and a suction side cooling circuit.

16. (original) A gas turbine engine in accordance with Claim 15 wherein at least one of said pressure side cooling circuit and said suction side cooling circuit comprises at least one feed chamber, at least one transition chamber, and at least one ejection chamber coupled together in flow communication, such that cooling fluid supplied from said at least one feed chamber flows through said at least one transition chamber prior to being discharged into said at least one ejection chamber.

17. (original) A gas turbine engine in accordance with Claim 14 wherein at least one of said first sidewall and said second sidewall comprises a plurality of film cooling holes extending therethrough into at least one of said cooling chambers.

18. (original) A gas turbine engine in accordance with Claim 14 wherein at least one of said first sidewall and said second sidewall comprises a plurality of trailing edge slots extending therethrough into at least one of said cooling chambers.

19. (original) A gas turbine engine in accordance with Claim 14 further comprising a leading edge circuit comprising a feed chamber and a cooling chamber coupled together in flow communication by a plurality of openings, such that cooling fluid discharged from said openings is directed towards said airfoil leading edge.

20. (previously presented) A gas turbine engine in accordance with Claim 14 wherein the cooling fluid supplied to said cavity transfers heat from said rib walls thereby facilitating reducing the temperature of said at least one purge chamber.